What is claimed is:

1. An apparatus, comprising:

a transmitter configured to send a transmitter signal associated with a frequency;

a receiver associated with the frequency;

an antenna coupled to the transmitter and the receiver; and

a signal cancellation circuit coupled to the transmitter, the receiver and the antenna, the signal cancellation circuit configured to phase shift a first portion of the transmitter signal to produce a phase-shifted signal, the signal cancellation circuit configured to combine the phase-shifted signal with a second portion of the transmitter signal to produce a combined signal, the second portion of the transmitter signal being associated with a reflection of a third portion of the transmitter signal from the antenna, the first portion, the second portion and the third portion of the transmitter signal being different from each other.

2. The apparatus of claim 1, wherein the signal cancellation circuit includes

a first coupler coupled to the transmitter and the antenna, the first coupler configured to receive the first portion of the transmitter signal,

a phase shifter coupled to the first coupler, the phase shifter configured to modify the phase of the transmitter signal to produce a modified signal, and

a second coupler coupled to the phase shifter and the antenna, the second coupler configured to combine the modified signal and the second portion of the transmitter signal to produce the combined signal, the second coupler configured to send the combined signal to the receiver and coupled to the antenna.

3. The apparatus of claim 1, wherein a magnitude of the first portion of the transmitter signal is substantially equal to a magnitude of the second portion of the transmitter signal.

4. The apparatus of claim 1, wherein the signal cancellation circuit includes

a first coupler coupled to the transmitter and the antenna, the first coupler configured to receive the first portion of the transmitter signal,

a variable attenuator coupled to the first coupler, the variable attenuator configured to modify a magnitude of the transmitter signal to produce a first modified signal,

a phase shifter coupled to the first coupler, the phase shifter configured to modify a phase of the first modified signal to produce a second modified signal, and

a second coupler coupled to the variable attenuator, the phase shifter, the receiver and the antenna, the second coupler configured to combine the second modified signal and the second portion of the transmitter signal to produce the combined signal, the second coupler configured to send the combined signal to the receiver and coupled to the antenna.

5. The apparatus of claim 1, further comprising:

a frequency source coupled to the transmitter and the receiver, the frequency source configured to send a carrier signal having the frequency to the transmitter and the receiver.

6. The apparatus of claim 1, wherein the signal cancellation circuit includes

a first coupler coupled to the transmitter and an antenna, and

a second coupler coupled to the antenna;

the apparatus further comprising:

a circulator coupled to the first coupler, the second coupler, and the antenna, the circulator configured to forward the third portion of the transmitter signal from the first coupler to the antenna, the circulator configured to forward the second portion of the transmitter signal from the antenna to the second coupler.

7. A method, comprising:

phase shifting a first portion of a transmitter signal to produce a phase-shifted signal, the transmitter signal being associated with a frequency; and

combining the phase-shifted signal with a second portion of the transmitter signal to produce a reduced signal, the second portion of the transmitter signal being associated with a reflection of the transmitter signal from an antenna, the antenna being coupled to a homodyne transceiver.

8. The method of claim 7, further comprising.

modifying, before the combining, an amplitude of the first portion of the transmitter signal such that the amplitude of the first portion of the transmitter signal is substantially equal to an amplitude of the second portion of the transmitter signal.

9. The method of claim 7, the transmitter signal having a training sequence, the method further comprising:

sending a detector signal based on an amplitude of the training sequence of the transmitter signal;

modifying, after the sending and before the combining, a first amplitude of the first portion of the transmitter signal based on the detector signal; and

modifying, after the combining, a second amplitude of the first portion of the transmitter signal the such that the second amplitude of the first portion of the transmitter signal is substantially equal to an amplitude of the second portion of the transmitter signal.

10. The method of claim 7, the transmitter signal having a training sequence, the method further comprising the following before the combining:

setting a first level associated with a variable attenuator to produce a first signal, the first level being associated with a maximum level of a variable attenuator;

setting a second level associated with the variable attenuator based on a detected signal associated with the first signal to produce a second signal;

setting a first level associated with a phase shifter based on the second signal to produce a third signal, the phase shifter being associated with the phase shifting;

setting a third level associated with the variable attenuator based on a detected signal associated with the third signal to produce a fourth signal; and

setting a second level associated with the phase shifter based on a detected signal associated with the fourth signal.

11. The method of claim 7, the transmitter signal having the first portion, the second portion and a third portion, the method further comprising:

splitting the first portion of the transmitter signal from the second portion and the third portion of the transmitter signal; and

sending the third portion of the transmitter signal from the antenna, the third portion of the transmitter signal being greater than the first portion of transmitter signal and greater than the second portion of the transmitter signal.

12. An apparatus, comprising:

a first coupler configured to receive a first portion of a transmitter signal, the transmitter signal being associated with a frequency;

a circuit coupled to the first coupler, the circuit configured to modify a phase of the transmitter signal to produce a modified signal; and

a second coupler coupled to the circuit, the second coupler configured to combine the modified signal and a second portion of the transmitter signal to produce a combined signal, the second portion of the transmitter signal being associated with a reflection of the transmitter signal from an antenna, the second coupler configured to send the combined signal to a receiver associated with the frequency and coupled to the antenna.

13. The apparatus of claim 12, wherein a magnitude of the first portion of the transmitter signal is substantially equal to a magnitude of the second portion of the transmitter signal.

14. The apparatus of claim 12, wherein the circuit includes a variable attenuator, a phase shifter, a detector and a controller, the variable attenuator being coupled to the first coupler and the phase shifter, the controller being coupled to the variable attenuator, the phase shifter and the detector, the second coupler being coupled to the phase shifter and the detector.

15. The apparatus of claim 12, further comprising:

a memory coupled to the circuit and configured to store calibration data, the circuit including a detector and a controller, the controller being coupled to the first coupler, the second coupler and the detector, the detector being configurable based on calibration data, the controller configured to modify the phase of the transmitter signal based on the calibration data.

16. The apparatus of claim 12, further comprising:

a memory coupled to the circuit and configured to store calibration data, the circuit including a detector and a variable attenuator, the attenuator being coupled to the first coupler and the second coupler, the detector being coupled to the second coupler, the detector being configurable based on calibration data while the variable attenuator is set to a maximum level.

17. The apparatus of claim 12, further comprising.

a low-noise amplifier (LNA) configured to couple the second coupler to the receiver, the LNA configured to amplify the combined signal.

18. The apparatus of claim 12, further comprising:

a homodyne transceiver including the receiver and a transmitter, the homodyne transceiver being associated with the frequency, the homodyne transceiver being coupled to the antenna via the first coupler.

19. The apparatus of claim 12, further comprising:

a homodyne transceiver including the receiver and a transmitter, the homodyne transceiver being associated with the frequency, the transmitter of the homodyne transceiver being coupled to the first coupler, the receiver of the homodyne transceiver being coupled to the second coupler.

20. The apparatus of claim 12, further comprising:

an antenna;

a homodyne transceiver including the receiver and a transmitter, the homodyne transceiver being associated with the frequency, the transmitter of the homodyne transceiver being coupled to the first coupler, the receiver of the homodyne transceiver being coupled to the second coupler; and

a circulator, the circulator being coupled to the first coupler, the second couple and the antenna.